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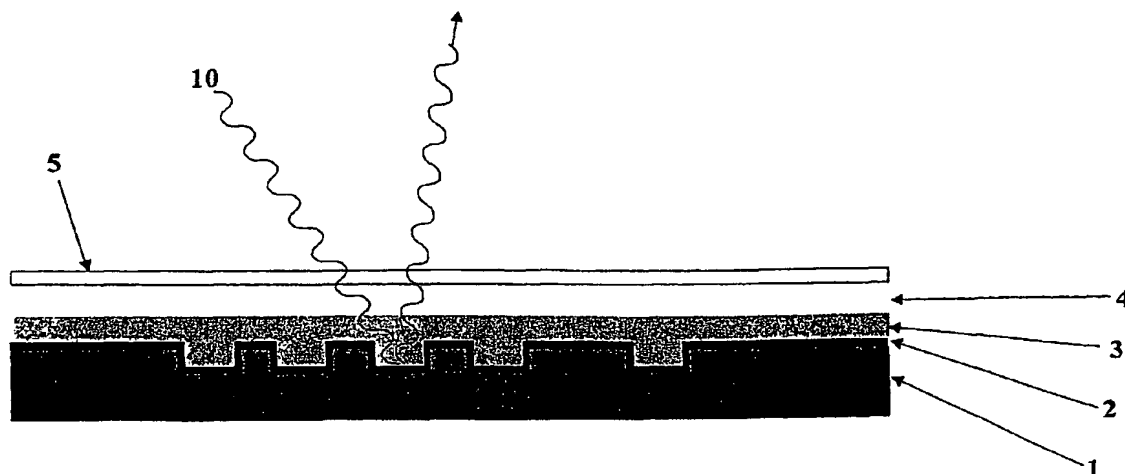
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(54) Title: LIMITED PLAY OPTICALLY-READABLE MEDIUM WITH LIQUID CRYSTALS AND METHODOLOGY THEREFOR



(57) Abstract: A method and an apparatus are disclosed for limiting the readability of optically-readable medium, wherein a combination of a liquid crystal material and a wavelength shifting material are incorporated into the optically-readable medium. The liquid crystal material is selected to substantially interfere with the reading beam of a reading device. The wavelength shifting material is selected to shift the wavelength at which the liquid crystal interferes with the reading beam so that the reading beam can read the optically-readable medium. A predetermined stimulus causes the liquid crystal material to shift back to a configuration that substantially interferes with the reading beam so that the reading beam can no longer read the content on the optically readable medium.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/10668

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G11B 3/70

US CL : 430/270.1, 270.15, 20; 369/283

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 430/270.1, 270.15, 20; 369/283

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
none

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
West; search terms: LC, liquid crystal\$6, LCs, optical, data, media, medium, disk, disc

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 5,353,247 A (FARIS) 04 October 1994 (04.10.1994), figures 2,3 and corresponding text in columns 5-6.	1-3,5-8,18-20,22-25,29-30 ----- 1-30
X --- Y	US 5,838,653 A (FAN et al.) 17 November 1998 (17.11.1998), see figures 15a-d,25a-33g and corresponding text particularly in columns 23-25 and 46-53.	1-3,5-11,13-20,22-30 ----- 1-30
X --- Y	JP 63-144433 A (NEC CORP) 16 June 1988 (16.06.1988), Figure 1 and abstract information	1-16,18-25 and 29-30 ----- 1-30
Y	JP 2001-241856 A (MISUBISHI CHEM. CORP.) 14 September 2001 (14.09.2001) figures 1, 2 abstract and [0007-0016]	1-30
Y	US 6,338,933 B1 (LAWANDY et al.) 15 January 2002 (15.01.2002) columns 13-14	1-30
Y	US 5,925,433 A (DUBBELDAM et al.) 20 July 1999 (20.07.1999), example 7	1-30



Further documents are listed in the continuation of Box C.



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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,019,476 A (KANNO et al.) 28 May 1991 (28.05.1991) see example 2.	1-30